

# 2006 Annual Water Quality Report

City of Falls Church  
Department of Environmental Services

## Dear Valued Customer:

We are pleased to present the following summary detailing the quality of the water provided to you over the past year. The Safe Drinking Water Act (SDWA) requires utilities to issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report specifies where our water comes from, what it contains, and the risks our water testing and treatment efforts are designed to prevent. The City of Falls Church Department of Environmental Services is committed to providing you with the safest and most reliable water. **Drinking water supplied by the City of Falls Church Department of Environmental Services meets or surpasses all federal and state drinking water standards.**

*El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.*

*Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.*

Informed consumers are our best allies in maintaining safe drinking water. More information is available online at [www.waterdata.com](http://www.waterdata.com) and at [www.epa.gov/safewater](http://www.epa.gov/safewater). If you have any questions about this report, please contact Matthew Jacobi at 703-248-5070 (TTY 711) or [mjacobi@fallschurchva.gov](mailto:mjacobi@fallschurchva.gov). This report is also published on the City's Web site at [www.fallschurchva.gov](http://www.fallschurchva.gov).

For information about the next opportunity for public participation in decisions about our drinking water, please call 703-248-5070 (TTY 711). Falls Church City Council meetings are generally held the 2nd and 4th Mondays of each month at 7:30 p.m. in City Hall, located at 300 Park Ave., Falls Church VA 22046.

Daniel E. McKeever  
City Manager



## What Is the Source of My Drinking Water?

The City of Falls Church Department of Environmental Services is supplied by the Washington Aqueduct and Fairfax Water which draw the water from the Potomac River. The Washington Aqueduct also supplies water to Arlington County and the District of Columbia.

A source water assessment for Fairfax Water has been conducted by the Virginia Department of Health. The Potomac River was determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program, which is consistent with the state's finding of other surface waters (rivers, lakes, streams) throughout Virginia. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the past 5 years. A version of the report is available by contacting the City's Public Utilities Division.

A detailed source water assessment to find better ways to protect the water sources for the Washington Aqueduct is in process. After the assessment is complete, information will be available

about potential sources of contamination and measures to reduce/eliminate those sources.

## How Do I Read the Charts Below?

The City of Falls Church and our water suppliers routinely monitor for constituents in your drinking water according to federal and state laws. The first table shows the results from monitoring that that we conducted, while the second table shows the results of monitoring by the Washington Aqueduct and Fairfax Water.

In the tables you will find many terms and abbreviations that are unfamiliar. To help you better understand these terms, we've provided the following definitions:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Maximum Residual Disinfectant Level or MRDL:** The highest level of a residual disinfectant that is allowed in drinking water.

**Maximum Residual Disinfectant Level Goal or MRDLG:** The level of residual disinfectant below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

**Detected Level:** The highest level detected of a contaminant for comparisons against the acceptance levels for each parameter. These levels could be the single highest measurement, or an average of values, depending on the contaminant.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment; or other requirement that a water system must follow.

**Non-Detects (ND):** Laboratory analysis indicates that the constituent is not present.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Parts per billion (ppb):** One part per billion corresponds to a single penny in \$10,000,000.

**Parts per million (ppm):** One part per million corresponds to a single penny in \$10,000.

**Picocuries per liter (pCi/L):** Picocuries per liter is a measure of the radioactivity in water.

FINISHED WATER CHARACTERISTICS, CITY OF FALLS CHURCH DISTRIBUTION SYSTEM MONITORING							TABLE 1
Substance	Unit	MCLG	MCL	Reporting Level	Range	Major Sources	
Total Coliform	% of samples	0	5	1.3	N/A	Naturally present in environment	
Chloramines	ppm	(MRDLG) 4	(MRDL) 4	3.33	N/A	Water additive used to control microbes	
Copper <sup>1</sup>	ppm	1.3	1.3	0.06	ND – 0.18	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	
Lead <sup>2</sup>	ppb	0	15	2.6	ND – 38.5	Corrosion of household plumbing systems; Leaching from wood preservatives	
Total Trihalomethanes	ppb	0	80	24	4 – 64	Byproduct or drinking water chlorination	
Total Haloacetic Acids	ppb	N/A	60	16	3 – 43	Byproduct or drinking water chlorination	

FINISHED WATER CHARACTERISTICS, SOURCE MONITORING								TABLE 2
Substance	Unit	MCLG	MCL	Washington Aqueduct		Fairfax Water		Major Sources
				AVG	RANGE	AVG	RANGE	
Alpha Emitters <sup>3</sup>	pCi/L	0	15	ND	ND – 2.1	0.7	0.2 – 1.2	Erosion of natural deposits
Arsenic	ppb	50	N/A	ND	ND – 0.6	ND	ND	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronic production wastes
Atrazine	ppb	3	3	0.05	ND – 0.53	0.11	ND – 0.17	Runoff from herbicide used on row crops
Barium	ppb	2	2	0.04	0.03 – 0.05	0.06	0.03 – 0.14	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/photon Emitters <sup>4</sup>	PCi/L	0	50	ND	ND – 3.8	4.1	ND – 4.9	Decay of natural and man-made deposits
Chromium	ppb	100	100	ND	ND – 1.0	ND	ND – 1	Discharge from steel & pulp mills; Erosion of natural deposits
Fluoride	ppm	4	4	0.88	0.53 – 1.43	0.8	0.5 – 1.5	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer & aluminum factories
Nitrate	ppm	10	10	1.88	0.59 – 3.17	1.2	0.7 – 2.8	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits
Nitrite	ppm	1	1	ND	ND	ND	ND – 0.02	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radium 226 / 228	PCi/L	0	5	ND	ND – 0.81	0.5 <sup>9</sup>	0.2 – 1.2	Erosion of natural deposits
Selenium	ppb	50	50	ND	ND – 0.8	ND	ND	Discharge from petroleum refineries; Erosion of natural deposits; Discharge from mines
Simazine	ppb	4	4	ND	ND – 0.1	0.02	ND – 0.09	Herbicide runoff
Total Organic Carbon	ratio	N/A	TT <sup>5</sup>	1.51 <sup>6</sup>	1.29 – 2.18	1.2 <sup>6</sup>	0.6 – 1.5	Naturally present in the environment
Turbidity	NTU	N/A	TT	0.05	0.26 <sup>7</sup>	0.07	0.64 <sup>8</sup>	Soil runoff

#### Water Quality Table Footnotes

- 1) No samples exceeded AL.
- 2) Three samples exceeded AL.
- 3) Washington Aqueduct testing performed in 2002. Fairfax Water testing performed in 2003.
- 4) The MCL for the Beta particles is written as 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for Beta particles. Fairfax Water results are average of Lorton/Occoquan 2003 & Corbalis 2005 data.
- 5) Total Organic Carbon has no health effects. However, it provides a medium for the formation of disinfection byproducts, which include trihalomethanes and haloacetic acids. Compliance with the treatment technique (TT) reduces the formation of these by products.
- 6) Average reported for Total Organic Carbon is Quarterly Running Annual Average (QRAA) of the monthly ratio of actual Total Organic Carbon removal versus required Total Organic Carbon removal between source and treated waters. A QRAA of 1 or greater is to be in compliance.
- 7) 100% of samples tested were below the treatment technique level of 0.5 NTU. The single highest measurement of 0.26 NTU is reported here. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. Turbidity is measured because it is a good indicator of the effectiveness of the filtration system used.
- 8) 99.992% of samples tested were below the treatment technique level of 0.5 NTU. The single highest measurement of 0.64 NTU is reported here. Any single measurement in excess of 1.0 NTU is a violation unless otherwise approved by the state. Turbidity is measured because it is a good indicator of the effectiveness of the filtration system used.
- 9) Testing performed in 2003.

#### Key To Tables

**AL** = Action Level  
**MCL** = Maximum Contaminant Level  
**TT** = Treatment Technique  
**MCLG** = Maximum Contaminant Level Goal  
**MRDL** = Maximum Residual Disinfectant Level  
**ppb** = parts per billion, or micrograms per liter (µg/l)  
**NTU** = Nephelometric Turbidity Units  
**MRDLG** = Maximum Residual Disinfectant Level Goal  
**mrem/year** = millirems per year  
**pCi/l** = picocuries per liter (a measure of radioactivity)  
**ND** = none detected  
**ppm** = parts per million, or milligrams per liter (mg/l)  
**N/A** = not applicable

## About *Cryptosporidium*

*Cryptosporidium* is a single-celled organism that lives and reproduces within the intestines of an animal host. During its lifecycle it matures into cells called oocysts. Exposure to oocysts can result in a disease called *cryptosporidiosis*, which can cause diarrhea, cramps, loss of appetite, weight loss, nausea and a low-grade fever. The City's water providers currently monitor for *cryptosporidium* in the source water before treatment for compliance with the EPA's upcoming Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). In 2005, the Washington Aqueduct detected an average result of none detected and Fairfax Water detected an average concentration of 0.004 oocysts/Liter in source water from the Potomac River and 0.012 oocysts/Liter in source water from the Occoquan Reservoir. Under the LT2ESWTR, the average *cryptosporidium* concentration will determine if additional treatment measures are needed. The levels found by both of the City's water providers are below the level expected to trigger additional water treatment measures.

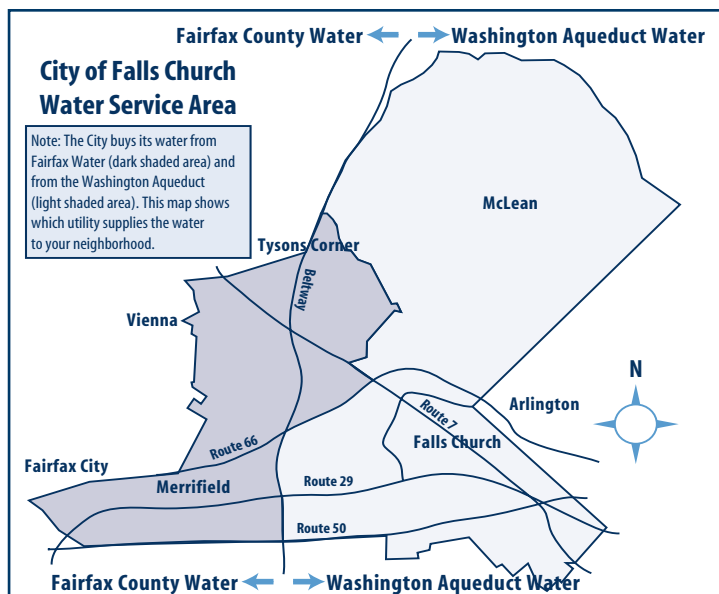
## Important Health Information About Drinking Water

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.



## Should Some People Take Special Precautions?

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than is the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

## Want More Information?

If you have any questions about this report, or need more information, please let us know.

Utilities Customer Service Division (billing questions): 703-248-5071 (TTY 711)

Public Utilities Division (technical questions): 703-248-5070 (TTY 711)

This report may be viewed on the Web at: [www.fallschurchva.gov](http://www.fallschurchva.gov)

Please address correspondence to:

**City of Falls Church**  
**Department of Environmental Services**  
**Public Utilities Division**  
**300 Park Avenue**  
**Falls Church, VA 22046**

## Policy of Non-Discrimination on the Basis of Disability

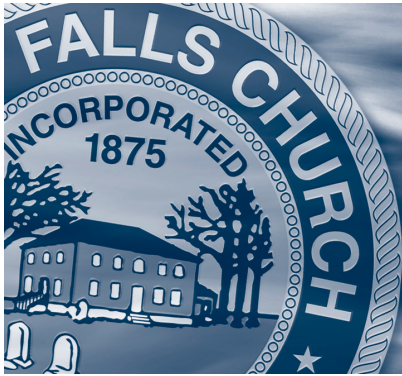
The City of Falls Church does not discriminate on the basis of disability in its employment practices or in the admission to, access to, or operation of its services, programs, or activities. Letha Flippin, 300 Park Avenue, Falls Church, Virginia 22046 has been designated to coordinate compliance with the ADA non-discrimination requirement.

Postal Customer

City of Falls Church  
Department of Environmental Services  
Public Utilities Division  
300 Park Avenue  
Falls Church, Virginia 22046



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# 2006 Annual Water Quality Report

This report contains very important information about your drinking water. Please translate it, or speak with someone who understands it.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Ban bao cao co ghi nhung chi tiet quan trong ve pham chat nuoc trong cong dong quy vi. Hay nho nguoi thong dich, hoac hoi mot nguoi ban biet ro ve van de nay.